



education

Department:
Education

PROVINCE OF KWAZULU-NATAL

INFORMATION TECHNOLOGY

PAPER 2 – MEMORANDUM

JUNE EXAMINATION 2016

GRADE 10

MARKS: 100

TIME: 2 HOURS

This question paper consists of 10 pages including the cover page.

SECTION A : MULTIPLE CHOICE QUESTIONS

QUESTION 1

- 1.1 C ✓
- 1.2 A ✓
- 1.3 B ✓
- 1.4 C ✓
- 1.5 D ✓
- 1.6 B ✓
- 1.7 C ✓
- 1.8 B ✓
- 1.9 D ✓
- 1.10 A ✓

SECTION C : SOCIAL IMPLICATIONS
QUESTION 3

- 3.1 3.1.1 a) End User License Agreement ✓
 b) It is a license that you purchase to use software ✓ to install on only one computer / device only ✓ (1)
- 3.1.2 Copyright is designed to protect intellectual property from distribution ✓ whereas Copyleft allows people to use and distribute work whilst still allowing the creator some control. ✓ (2)
- 3.1.3 a) Is the act of stealing intellectual property – illegal distribution and use ✓
 b)
 - Installing and using software that is not free without paying for it
 - Sharing software with friends/family when not permitted to do so
 - Selling illegal copies of media or software
 - Large scale copying and selling of illegal counterfeit copies of media
 ✓✓ (ANY TWO relevant response) (1)
- 3.2 The gap between people that have access to computers and technology and know how to use it and people that don't. ✓ (1)
- 3.3 3.3.1
 - Switch off computers and devices you are not using
 - Try and avoid senseless wasting of paper – edit/correct work on screen before printing
 - Repair or upgrade hardware
 - Don't throw away ink and toner cartridges.
 - Refilling and reusing ink and toner cartridges
 ✓✓ (Any TWO from above) (2)
- 3.3.2 The study and design of workplace for comfort and safety of people in work environments. ✓ (1)
- 3.3.3
 - Sit correctly
 - Make sure lighting and ventilation is adequate
 - Your mouse and keyboard must be on the same level
 - Take regular breaks
 - The monitor should be positioned at the correct level so you don't strain your neck.
 ✓✓✓ (any THREE relevant response) (2)

Total for Section C: 15

SECTION D: DATA AND INFORMATION MANAGEMENT

QUESTION 4

- 4.1 4.1.1 Data is raw unprocessed facts ✓ whereas information is the result of the processing of data and is useful and meaningful. ✓ (2)
- 4.1.2 a) 8 ✓ (1)
 b) Integer or whole number
 Real or decimal or floating point
 String or text
 ✓✓ (any TWO from above) (2)
- 4.2 c) Truncation and Overflow ✓ - when some text is lost or truncated and where there is a misinterpretation of bytes. ✓ (4)
 Loss of accuracy ✓ - does not give the accurate information ✓
- 4.2.1 D drive ✓ (1)
- 4.2.2 Documents OR School Fees OR 2016 ✓ (1)
- 4.2.3 a) Spreadsheet ✓
 It has a file extension ".xlsx" which means it was created and can be opened in Microsoft Excel. ✓ (2)
 b)
 - Share data by using a common format that both programs can read and interpret
 - Allows users who are using a different operating system to access the data
 - Allow users who are using older versions of a program to access the data
 ✓✓ (any TWO from above) (2)
- 4.3 4.3.1

$$= (1 \times 2^7) + (0 \times 2^6) + (0 \times 2^5) + (1 \times 2^4) + (1 \times 2^3) + (0 \times 2^2) + (1 \times 2^1) + (1 \times 2^0) \checkmark$$

$$= 128 + 0 + 0 + 16 + 8 + 4 + 0 + 1 \checkmark$$

$$= 157_{10} \checkmark$$
 (3)
- 4.3.2

$$= (1 \times 2^2) + (0 \times 2^1) + (1 \times 2^0) + (1 \times 2^1) + (0 \times 2^2) + (1 \times 2^3) \checkmark$$

$$= 4 + 0 + 1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} \checkmark$$

$$= 5.875_{10} \checkmark$$
 (3)
- 4.3.3

B	6532	R
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2	3266	0
2	1633	0
2	816	1
2	408	0
2	204	0
2	102	0
2	51	0
2	25	1
2	12	1
2	6	0
2	3	0
2	1	1
2	0	1

= 1100110000100₂ ✓

SECTION E : SOLUTION DEVELOPMENT

QUESTION 5

- 5.1 5.1.1 num
count
sum
✓ ONE from above (1)
- 5.1.2 It is used to determine the remainder after one number has been divided by another. ✓ (1)
- 5.1.3 Unconditional ✓
We know how many times the loop must run so there is no condition. ✓ (2)
- 5.1.4 Line 1 count ← 0 ✓
the count should be set to 1 because you cannot divide by 0 ✓
Line 5 sum ← sum + num ✓
need to add sum to count not the number. ✓ (4)

Total for Section D: 25

5.2 Start

1. repeat 20 ✓
2. Input name ✓
3. Input dob ✓
4. Input contact ✓
5. first ← letter 1 of name + letter 2 of name ✓✓
6. year ← letter 1 of dob + letter 2 of dob + letter 3 of dob + letter 4 of dob ✓✓✓
7. age ← 2016 – year ✓
8. random ← pick random from 5 to 10 ✓
9. code ← first + age + '@' + random ✓✓
10. add code to passwordList ✓

Stop

OR

Start

1. repeat 20 ✓
2. Input name ✓
3. Input dob ✓
4. Input contact ✓
5. first ← letter 1 of name + letter 2 of name ✓✓
6. c ← 1 ✓
7. repeat 4 ✓
8. year ← join letter c of dob to year ✓
9. change c by 1 ✓
10. age ← 2016 – year ✓
11. random ← pick random from 5 to 10 ✓
12. code ← first + age + '@' + random ✓✓
13. add code to passwordList ✓

Stop

(12)

Total for Section E: 20
GRAND TOTAL: 100